DOCUMENT RESUME

ED 078 771 HE 004 359

AUTHOR	Ontjes, Robert; Browning, Edward
TITLE	The Impact of Non-Resident Students at Northwest Missouri State University.
INSTITUTION	Northwest Missouri State Univ., Maryville. Office of Institutional Research.
PUB DATE	Jan 73
NOTE	35p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*College Students; Costs; *Educational Economics; *Educational Finance; Expenditures; *Higher Education; *Nonresident Students; Resident Students
IDENTIFIERS	Missouri; *Northwest Missouri State University

ABSTRACT

As a result of administrative and legislative pressures brought to simultaneously increase out-of-state fees and limit the number of nonresident students, based on the feeling that they do not pay their own way, the study was conducted to: (1) determine the total money payment to Northwest Missouri State University, the State of Missouri and to Missourians attributable to the presence of nonresident students attending Northwest Missouri State University; (2) determine the impact of these expenditures on Missouri's economy with the use of an appropriate multiplier; (3) determine the increased cost to the State of educating nonresident students at Northwest Missouri State University, and (4) determine the net effect of nonresident students attending Northwest Missouri State University on the State's economy. A random sample of nonresident students currently in attendance at NWMSU was surveyed to determine their spending patterns. NWMSU records were studied and interviews with various administrative officials were conducted to determine additional cost figures. It was determined that nonresident students are an economic asset to the University, the local community, and the State. (Author)

ED 078771

THE IMPACT OF NON-RESIDENT STUDENTS AT NORTHWEST MISSOURI STATE UNIVERSITY

January 1973

By

DR. ROBERT ONTJES
Director, Institutional Research

DR. EDWARD BROWNING
Professor of Business

HE 004 359

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Office of Institutional Research
NORTHWEST MISSOURI STATE UNIVERSITY
Maryville, Missouri 64468

FILMED FROM BEST AVAILABLE COPY

ED 078771

THE IMPACT OF NON-RESIDENT STUDENTS AT NORTHWEST MISSOURI STATE UNIVERSITY

by

Dr. Robert Ontjes
Director, Institutional Research

Dr. Edward Browning
Professor of Business

Office of Institutional Research
Northwest Missouri State University
Maryville, Missouri
January 1973

ACKNOWLEDGMENTS

The writers wish to express their appreciation to the administration, faculty, and students at Northwest Missouri State University who cooperated in providing the data necessary for the successful completion of this study.

Special acknowledgment goes to Dr. Gilbert L. Mathis, Associate Professor of Economics, Murray State University, Murray, Kentucky, for permission to use his study, and for providing information and suggestions that were very helpful in this endeavor.

A thank you is also extended to Mr. Terry O'Hara, Northwest Missouri State University graduate student, for his capable assistance in data gathering and analysis.

TABLE OF CONTENTS

ACKNOWLEDGMENTS..... ii

TABLE OF CONTENTS..... iii

LIST OF TABLES..... v

INTRODUCTION..... 1

- Purpose
- Objectives
- Historical Perspective
- Source of Data
- Methods
- Limitations

REVENUES ATTRIBUTABLE TO NON-RESIDENT STUDENTS..... 5

- Revenues to Northwest Missouri State
- Revenues to the State of Missouri
- Income to the Private Sector
- Summary

THE ECONOMIC IMPACT OF ADDITIONAL REVENUE ON THE STATE'S ECONOMY..... 12

- The Multiplier Effect
- Determination of a Multiplier
- Economic Impact

COST OF NON-RESIDENT STUDENTS ATTENDING NORTHWEST MISSOURI STATE UNIVERSITY..... 15

- General Administration
- Instructional Costs
- Student Affairs Cost
- Business and Auxiliary Enterprise Costs
- Summary of Additional Costs

TABLE OF CONTENTS (Continued)

GENERAL SUMMARY: CONCULSIONS AND RECOMMENDATIONS..... 21

Revenues from Increased Enrollment
Economic Impact of Increased Enrollment
Per Student Costs of Increased Enrollment
Comparison of Revenue and Cost
Conclusions
Recommendations

FOOTNOTES..... 28

LIST OF TABLES

Table		Page
I	RECEIPTS TO NWMSU FROM NON-RESIDENT STUDENTS.....	6
II	REVENUES TO STATE OF MISSOURI FROM NON-RESIDENT STUDENTS.....	8
III	REVENUES TO PRIVATE SECTOR FROM NON-RESIDENT STUDENTS.....	10
IV	TOTAL INCOME TO NWMSU, MISSOURI, AND THE PRIVATE SECTOR ATTRIBUTED TO NON-RESIDENT STUDENTS AT NWMSU.....	11
V	ESTIMATED ADDITIONAL INCOME CREATED BY NON-RESIDENT EXPENDITURES.....	14
VI	INCREASED COSTS - GENERAL ADMINISTRATION.....	16
VII	INCREASED COSTS - INSTRUCTION.....	17
VIII	INCREASED COSTS - BUSINESS AFFAIRS AND AUXILIARY ENTERPRISES.....	19
IX	SUMMARY OF INCREASED COSTS OF 500 AND 1,000 ADDITIONAL STUDENTS.....	20
X	PROJECTED PER STUDENT AND TOTAL REVENUE FROM 500 AND 1,000 ADDITIONAL NON-RESIDENT UNDERGRADUATE STUDENTS.....	22
XI	PROJECTED ECONOMIC IMPACT OF 500 AND 1,000 ADDITIONAL NON-RESIDENT UNDERGRADUATE STUDENTS.....	23
XII	SUMMARY OF INCREASED COSTS OF 500 AND 1,000 ADDITIONAL STUDENTS.....	24

INTRODUCTION

During the past several years, increased attention has been focused on college campuses. This has been stimulated by the increased involvement of the academic community in social and economic affairs and by the increased demand on state budgets to help finance state supported schools. The growing concern has focused on the increased cost of higher education as well as the need for financing without additional taxes. As a result administrative and legislative pressures have been brought to bear on Northwest Missouri State University to simultaneously increase out-of-state fees and limit the number of non-resident students based on the feeling that they do not pay their own way.

This study was designed to parallel a similar study, 'Benefits and Costs of Out-Of-State Students Attending Murray State University,' by Gilbert L. Mathis, Associate Professor of Economics at Murray State University, Murray, Kentucky, hereafter referred to as the Murray State Study.

Purpose

The purpose of this study was to analyze the economic impact on the economy of the State of Missouri of non-resident students attending Northwest Missouri State University. The intent was to show that Northwest Missouri State University,

the community of Maryville, and the State of Missouri all benefit substantially from out-of-state students.

Objectives

The specific objectives of the study were: (1) to determine the total money payments to Northwest Missouri State University, the State of Missouri, and to Missourians attributable to the presence of non-resident students attending Northwest Missouri State University, (2) to determine the impact of these expenditures on Missouri's economy with the use of an appropriate multiplier, (3) to determine the increased cost to the state of educating non-resident students at Northwest Missouri State University, (4) to determine the net effect of non-resident students attending Northwest Missouri State University on the state's economy.

Historical Perspective

Responding to a request by the Missouri Commission on Higher Education, Northwest Missouri State University increased tuition for out-of-state students by $45 per semester for the 1972-73 academic year which followed an increase of $100 per semester for the 1971-72 academic year; this action represented a 56% increase in non-resident fees over a two-year period. During this same period the resident fees increased $35, which represented a 28% change over two years. This increase in non-resident fees was a major factor which caused a drop in out-of-state enrollment of 499 students between Fall 1971 and

Fall 1972 following a decrease of 157 non-resident students the previous year.[1]

Although Missouri residents are admitted if they are in the upper two-thirds of their high school graduating class, out-of-state students face higher admission standards in that they must rank in the upper one-half of their graduating class. Moreover, a similar differential exists if their admission is to be based on standardized test scores.

Northwest Missouri State University has historically been considered the logical choice of many out-of-state students in bordering states because of the quality of education received as well as the proximity of the school and the cost of education.

Source of Data

The data for determining the total income derived by Northwest Missouri State University, the State of Missouri, and to Missourians attributable to non-resident students attending Northwest Missouri State University were secured through a mail questionnaire of 200 randomly selected non-resident students in attendance the Fall semester of 1972. There were 135 returns of which 117 were complete and usable. The usable returns represented approximately 7% of the total number of out-of-state students. A random sample of this size is considered to accurately reflect the characteristics of the population from which the sample is drawn. This assumption was supported by comparing various demographic variables

on both the sample of non-resident students and the total non-resident student population currently in attendance. There was no significant difference on any of the variables.

The data for determining the additional cost to the state per student for educating non-resident students at Northwest Missouri State were secured through interviews with the various administrative officers of the University.

Methods

Many interested parties have suggested that the proper approach in ascertaining the true cost of education for each additional student is simply to divide the number of students attending the University into the total cost of operations and maintenance. Since certain of these costs are not variable with the number of students and will remain no matter how many students attend the University, it was felt that this was not the proper approach. The proper approach would be to ascertain the additional costs which occur because of additional students, and this was the approach used in this study.

Limitations

The following limitations of the study were recognized: (1) sample selection included only undergraduate students, (2) cost and revenue data were based on an increase of 500 and 1,000 students over current enrollment, (3) calculations were based on present facilities and services, (4) the study was based upon data pertaining only to Northwest Missouri State University, (5) absence of data, time, and funds

prohibited calculating a multiplier for Northwest Missouri which would more accurately reflect the total economic impact of out-of-state students attending Northwest Missouri State University.

REVENUES ATTRIBUTABLE TO NON-RESIDENT STUDENTS[2]

This phase of the study involved determining the additional revenue per student to Northwest Missouri State, to the State of Missouri, and to Missourians attributable to the presence of non-resident students attending Northwest Missouri State University during the 1972-73 academic year. The numbers of students were based on the enrollment during the Fall 1972 semester.

Revenues to Northwest Missouri State

The income accruing to Northwest Missouri State University during the 1972-73 academic year is shown in Table I. The sources of income are shown in Column 1; the amount of income per year for each student utilizing that source is shown in Column 2; the number of students utilizing each item is shown in Column 3, and the total revenue to the University is shown in Column 4. The additional revenue per student is shown in Column 5. The total revenue was rounded to the nearest dollar.

The total revenue from registration fees was calculated by multiplying the yearly rate ($320) by the full time equivalent (FTE) non-resident enrollment (1,668). The additional revenue per student was calculated by dividing the total revenue ($533,760) by the total number of non-resident students (1,696). The total revenues and additional revenues per student from non-resident fees were computed in the same manner.

TABLE I

RECEIPTS TO NWMSU
FROM NON-RESIDENT STUDENTS

Source of Receipts	Yearly Average	Number of Students	Total Revenue	Additional Revenue Per Student
Registration	$320.00	1,668	$ 533,760	$ 314.72
Non-Resident Fees	490.00	1,668	817,320	481.91
Housing-Dorms	280.00	752	210,560	124.15
Food	520.00	752	391,040	230.57
Fed. Stu. Aid	97.99	1,668	163,447	96.37
Miscellaneous	33.63	1,668	56,095	33.07
Total			$2,172,222	$1,280.79

The total income for housing was calculated by multiplying the yearly rate ($280) by the number of non-resident students living in the dorms (752). The additional revenue per student was calculated by dividing the total revenue ($210,560) by the number of students (1,696).

Since all students with a room contract also have a board contract, the University has the same number of students utilizing the food service as they have in the dorm system. The additional revenue per student was calculated by using the average board contract and performing calculations similar to above.

Federal student aid consisted of non-loan grants and payments to the University which were a function of enrollment and student need. This included $232,318 for economic opportunity grants, and $237,132 for federal work study grants. The yearly total per student was calculated by dividing the total federal aid ($469,450) by the total FTE (4,791). The total and additional revenue per student for non-resident students were computed in the same manner as for the above items.

Miscellaneous income includes the average amount paid to the University per student per year for such services as organized activities, music fees, graduation fees, transcripts, parking permits and fines, library fines, departmental sales and services, and incidental fees. The total revenue and additional revenue per student for non-resident students were computed in the same manner as for other items.

The total estimated revenue to Northwest Missouri State attributable to non-resident students was $2,172,222 for the academic year or $1,280.79 for each non-resident undergraduate student. The adjusted yearly total would be slightly less since the calculations were based on the Fall FTE, and the Spring FTE non-resident enrollment is usually slightly less.

Revenues to the State of Missouri

Revenues accruing directly to the State of Missouri which are attributable to the presence of non-resident students at Northwest Missouri State are shown in Table II. Sources of revenue are shown in Column 1; the tax rate and base are

shown in Column 2; the number of students contributing to that source of revenue in Column 3; the total revenue in Column 4, and the additional revenue per student in Column 5.

TABLE II

REVENUES TO STATE OF MISSOURI
FROM NON-RESIDENT STUDENTS

Source of Revenue	Tax Base Rate	Number of Students	Total Revenue	Additional Revenue Per Student
Retail Sales Tax	$880.52@.03	1,696	$44,808	$26.42
Gasoline	182 gal.@.07	855	10,892	6.42
Liquor	2.76g.@2.00	1,668	9,207	5.43
	1.50g.@0.30	1,668	751	.44
	8.39g.@0.06	1,668	840	.50
Cigarette Tax	286 pks@0.09	678	17,451	10.29
Total			$83,949	$49.50

The retail sales tax was calculated from expenditures on food, clothing, recreation, lodging, liquor, cigarettes and miscellaneous items purchased by non-resident students and friends visiting them. This $1,493,356 expenditure generated $44,808 in tax revenue. From the respondents' estimates of mileage driven in Missouri, their gasoline purchases would yield $10,892 in state use taxes. None of the respondents had purchased a car in Missouri nor did any of them license

their car in Missouri. The consumption rates and costs for the various types of liquor and cigarettes were based on estimates from official state statistics on tax rates and consumption.

Income taxes were not included because most non-resident students who work hold part-time jobs and most of the tax withheld was refunded.

Income to the Private Sector

Revenues to businesses and individuals in Missouri attributable to non-resident students at Northwest Missouri State are shown in Table III. The dollar amounts shown are the net after taxes because taxes were shown in Table II. The source of income is shown in Column 1; the yearly average per student contributing to that source in Column 2; the number of students contributing to that source in Column 3; the total revenue in Column 4 and the additional revenue per student in Column 5. Non-resident students spent an additional $458,164 or an average of $270.13 for food not consumed in University cafeterias. Non-resident students living off campus spent $654,330 for rent and utilities. Non-resident students spent $151,317 for clothing and $319,933 for recreation. One thousand and sixty-nine non-resident students had visits from relatives and friends which resulted in $35,843 being spent in Missouri. Non-resident students spent $43,827 in organization fees in addition to those paid Northwest Missouri State University and $46,922 for gasoline.

Non-resident students spend on the average $206.28 for miscellaneous items including laundry, hair spray, toothpaste, hair cuts, and other items totaling $349,851.

TABLE III

REVENUES TO PRIVATE SECTOR
FROM NON-RESIDENT STUDENTS

Source of Receipts	Yearly Average	Number of Students	Total Revenue	Additional Revenue Per Student
Food:				
Own Cooking	$398.52	656	$ 261,429	$ 154.14
Restaurants	132.66	1,483	196,735	116.00
Housing & Utilities	849.10	771	654,330	385.81
Clothing	89.22	1,696	151,317	89.22
Recreation	188.64	1,696	319,933	188.64
Visits	33.53	1,069	35,843	21.13
Clubs, Org.	51.26	855	43,827	25.84
Gasoline	54.88	855	46,922	27.67
Liquor	44.69	1,668	74,539	43.95
Cigarettes	88.35	678	59,902	35.32
Miscellaneous	206.28	1,696	349,851	206.28
Total			$2,194,628	$1,294.00

Summary

The total revenues accruing to Northwest Missouri State, to the State of Missouri, and to business and individuals attributable to non-resident students attending Northwest Missouri State University are summarized in Table IV. Non-resident students spent a total of $4,450,799 or $2,624.29 each during the 1971-72 academic year.

TABLE IV

TOTAL INCOME TO NWMSU, MISSOURI, AND THE PRIVATE SECTOR ATTRIBUTED TO NON-RESIDENT STUDENTS AT NWMSU

Recipient of Income	Total Revenue All Students	Additional Revenue Per Student
NWMSU	$2,172,222	$1,280.79
State of Missouri	83,949	49.50
Private Sector	2,194,628	1,294.00
Total	$4,450,799	$2,624.29

THE ECONOMIC IMPACT OF ADDITIONAL REVENUE ON THE STATE'S ECONOMY[3]

The total economic impact of the revenue attributable to non-resident students on the state's economy was computed by applying a multiplier to the expenditures shown in Table IV.

The Multiplier Effect

It is a matter of observation that additional money flowing into a community passes through a number of hands. Each time a dollar is spent, it becomes income to an individual who saves a fraction of it but respends the rest on consumption or investment. This respending constitutes income to someone else, who in turn saves a part but respends the rest, and so on.

The results of these rounds of spending are obvious. Each dollar of new spending will increase aggregate income by some larger or multiplied amount of the original dollar spent as the same dollar circulates from recipient to recipient. The number of times the final increase in income exceeds the original expenditure is called the "multiplier."

The magnitude of the multiplier for a given area depends on a number of factors including its income and employment levels, its industrial base, the consumption-saving patterns of its residents, and its rate of leakage of funds to other sources.

The multiplier for a large industrial area with a relatively small import balance tends to be large while for a small area that imports a large portion of its industrial products, building materials, processed foods and consumer durables, the multiplier would be small.

Determination of a Multiplier

The time and resources required to determine an official multiplier for this area of Missouri were unavailable to the participants in this study. However, there are a number of studies which use an economic multiplier.

The multiplier for the United States is estimated to be about 3.0, based on the projected increase in spending resulting from the 1964-65 income tax reduction. In The 1969 Survey of Travel in Kentucky, the multiplier for Kentucky was estimated to be 1.67. In a study measuring the economic impact of non-resident students attending the University of Oklahoma, the multiplier for Oklahoma was estimated at 1.74. Other estimates include 4.35 for Tuscaloosa County, Alabama; 3.75 for the State of Mississippi; and 3.3 for Atlanta, Georgia.

In a study on the impact of private colleges and universities to the State of Missouri, submitted to the Missouri Commission on Higher Education by the Midwest Research Institute of Kansas City, a multiplier of 2.9 was used.[4]

The use of the 1.67 multiplier in this study seems appropriate and obviously conservative when compared with the multipliers referred to above. The low multiplier used is consistent

with other parts of the study where conservatism was used when estimates were required.

Economic Impact

The total estimated economic impact of the expenditures of non-resident students on the state's economy is shown in Table V.

TABLE V

ESTIMATED ADDITIONAL INCOME CREATED BY NON-RESIDENT EXPENDITURES

Recipient of Expenditure	Out of Pocket Amount	Multiplier	Estimated Additional Income
NWMSU	$2,172,222	1.67	$3,627,611
State of Missouri	83,949	1.67	140,195
Bus. & Individuals	2,194,628	1.67	3,665,029
Total	$4,450,799	1.67	$7,432,835

The 1,696 non-resident undergraduates attending Northwest Missouri State University during the 1972-73 academic year spent an estimated $4,450,799 which added approximately $7,432,835 in income to the state's economy.

COST OF NON-RESIDENT STUDENTS ATTENDING NORTHWEST MISSOURI STATE UNIVERSITY

In this portion of the study an attempt was made to determine the additional cost that would be incurred by increasing the undergraduate non-resident enrollment at Northwest Missouri State by 500 or 1,000 additional students which represent approximately 10% and 20% of current enrollment. Costs, analyzed on an academic year basis, were determined by extensive discussion with various administrative officers and through review of various sections of the operating budget and the annual financial report.

The various categories of expenditure were analyzed to determine if they were indeed a function of enrollment. For those items that could be considered partly fixed and partly a function of enrollment, best judgments were used to determine the portion that was related to enrollment.

This study was designed to look at the impact of an additional 500 or 1,000 students regardless of the level of enrollment at any particular point in time, which is somewhat different from the approach used in the Murray State Study, which viewed an increase in students of 10% or 20% based on a specific enrollment figure.

The total variable cost for each area of expenditure was calculated by assuming the additional cost associated with each item in that category which would result from increasing

enrollment by 500 or 1,000 students. In all cases, the increased costs were based on the assumption that additional students would be full-time students.

General Administration

The general administration cost of increasing the undergraduate enrollment by 500 or 1,000 students is shown in Table VI. For an increase of 500 students, there were no anticipated needs for additional personnel to maintain the current level of service. However, it was felt that if there were an additional 1,000 students, the Student Financial Aids Office would require an additional clerical person. The administrative supplies for all administrative offices were included in this category which amounted to $6.64 per student at either level of increase.

TABLE VI

INCREASED COSTS - GENERAL ADMINISTRATION

Administrative Area	500 Student Increase		1,000 Student Increase	
	Total	Per Student	Total	Per Student
President's Office Assist. to President Student Financial Aid Placement Office Alumni Activities News & Information Field Service Supplies in All Areas	$3,320	$6.64	$ 4,500 6,640	$ 4.50 6.64
Total	$3,320	$6.64	$11,140	$11.14

Overall general administrative expenses would increase $6.64 per student for a 500 student increase or a total of $3,320. If we had an increase in enrollment of 1,000 students, the per student increase would be $11.14 or a total of $11,140.

Instructional Costs

The additional costs incurred by the increase in enrollment of 500 or 1,000 students for instruction are shown in Table VII. Northwest Missouri State University is presently operating under a system in which the students are provided all necessary textbooks for undergraduate courses. For the current year this program was budgeted at a rate which was equivalent to $15.39 per student. This full amount was considered to be directly related to an increase in students, without considering whether extra textbooks were available.

TABLE VII

INCREASED COSTS - INSTRUCTION

Administrative Area	500 Student Increase		1,000 Student Increase	
	Total	Per Student	Total	Per Student
V. P. Academic Affairs				
Institutional Research				
Textbooks	$ 7,695	$ 15.39	$ 15,390	$ 15.39
Academic Deans				
Faculty Salaries	281,818	563.64	563,636	563.64
Instr. Supplies	14,500	29.00	29,000	29.00
Instr. Equipment				
Library Acquisitions				
Instructional Facilities				
Total	$304,015	$608.03	$608,030	$608.03

The additional cost for faculty salaries was based on the assumption that for every additional 22 students, an additional faculty member would be required at an average salary of $12,400. No attempt was made to analyze individual academic departments to determine if there was any capacity for absorbing additional enrollment. This study assumes the long run impact of additional students and therefore, additional enrollment would require additional faculty at this rate.

The instructional supplies were based on current expenditures and then projected for any number of students at $29.00 per student. Since a specific minimum level of instructional equipment, facilities and library acquisitions must be maintained regardless of the number of students, these areas were not considered to be variable at the levels of enrollment increase under consideration in this study.

Overall, instructional costs would increase at the rate of $608.03 per student at both the 500 or 1,000 additional student level.

Student Affairs Cost

The area of Student Affairs was not considered to require any additional cost to maintain present levels of operations and services. The only variable costs in this area would be in administrative supplies, and these were included under the general administration category.

Business and Auxiliary Enterprise Costs

The summary of additional operational costs of the business affairs and auxiliary enterprise areas are shown in Table VIII. The figures showing additional costs per student in both the food service and housing areas are prorated in the same ratio as the present utilization rates by the currently enrolled non-resident students. For example, the food service costs were based on a $314.00 actual food cost per student utilizing this service and one additional serving line per 500 students eating in the cafeteria at a cost of $37.30 per student. The housing system costs were also computed on a cost per student using the facilities.

TABLE VIII

INCREASED COSTS - BUSINESS AFFAIRS AND AUXILIARY ENTERPRISES

Administrative Area	500 Student Increase		1,000 Student Increase	
	Total	Per Student	Total	Per Student
V. P. Business Affairs				
Business Office				
Bookstore				
Security				
Data Processing				
Food Service	$ 77,882	$155.77	$155,770	$155.77
Housing	34,632	69.26	69,260	69.26
College Farm				
Total	$112,515	$225.03	$225,030	$225.03

The additional cost per student for the entire business affairs and auxiliary enterprise area of the University is $225.03 per student at both the 500 and 1,000 additional student levels.

Summary of Additional Costs

The summary of increased costs for 500 and 1,000 additional students to NWMSU is shown in Table IX.

An increase of 500 students would cost $419,850 or $839.70 per student. For an increase of 1,000 students, the increased costs would be $844.20 per student for a total of $844,200.

TABLE IX

SUMMARY OF INCREASED COSTS OF
500 AND 1,000 ADDITIONAL STUDENTS

Administrative Area	500 Student Increase		1,000 Student Increase	
	Total	Per Student	Total	Per Student
Gen. Administrative	$ 3,320	$ 6.64	$ 11,140	$ 11.14
Instruction	304,015	608.03	608,030	608.03
Student Affairs				
Business Affairs	112,515	225.03	225,030	225.03
Total	$419,850	$839.70	$844,200	$844.20

GENERAL SUMMARY: CONCLUSIONS AND RECOMMENDATIONS

From the Fall of 1971 to the Fall of 1972 semester, Northwest Missouri State University experienced a drop of 499 non-resident undergraduate students. A major portion of this drop was attributed to a $45 per semester increase in non-resident fees for the 1972-73 academic year, which followed a $100 per semester increase the previous year.

During the 1972-73 academic year, there were 1,696 non-resident students enrolled in Northwest Missouri State University out of a total of 5,341 students. These non-resident students paid the University $2,172,222 for fees and services and an additional $83,949 in taxes and fees to the State of Missouri. In addition, these non-resident students spent $2,194,628 for goods and services provided by individuals and businesses which made a total of $4,450,799 that entered into and circulated in Missouri's economy. The expenditure of this out-of-state money created $7,432,835 to the economy which in turn provided income sufficient to support jobs for some 1,350 persons at an average salary of approximately $5,500 per year.

Revenues from Increased Enrollment

The projected additional revenue per student and total revenue to the University, State, and private sector from

increases in non-resident enrollment of 500 and 1,000 additional students in undergraduate enrollment at Northwest Missouri State University is summarized in Table X.

TABLE X

PROJECTED PER STUDENT AND TOTAL REVENUE FROM 500 AND 1,000 ADDITIONAL NON-RESIDENT UNDERGRADUATE STUDENTS

Recipient of Revenue	Additional Revenue Per Student	Additional Revenue 500 Student Increase	Additional Revenue 1,000 Student Increase
NWMSU	$1,281	$ 640,500	$1,281,000
State of Missouri	50	25,000	50,000
Bus. & Individuals	1,294	647,000	1,294,000
Total	$2,625	$1,312,500	$2,625,000

Each additional non-resident undergraduate student attending Northwest Missouri State would contribute $2,625 to Missouri's economy. If non-resident enrollment were increased by amounts equal to 500 or 1,000 additional students, the total additional revenue would be $1,312,500 and $2,625,000 respectively.

Economic Impact of Increased Enrollment

The projected economic impact of the expenditures of non-resident undergraduate students is summarized in Table XI. The impact is shown for each student and for 500 and 1,000 additional students.

The expenditures of each additional non-resident student creates and returns approximately $4,384 to Missouri's economy. An increase of 500 non-resident students would create approximately $2,191,875 in new income, and an increase of 1,000 non-resident students would add approximately $4,383,750 to the state's economy. These increases would provide income sufficient to employ some 399 and 797 persons respectively at an average annual salary of $5,500.

TABLE XI

PROJECTED ECONOMIC IMPACT OF 500 AND 1,000 ADDITIONAL NON-RESIDENT UNDERGRADUATE STUDENTS

	Per Student	500 Student Increase	1,000 Student Increase
Expenditure	$2,625	$1,312,500	$2,625,000
Multiplier	1.67	1.67	1.67
Added Income	$4,384	$2,191,875	$4,383,750

Per Student Costs of Increased Enrollment

The projected additional cost of 500 and 1,000 additional non-resident undergraduate students at Northwest Missouri State is summarized in Table XII. The projected additional cost per student for an increase of 500 non-resident undergraduate students was $840. A total additional cost of these 500 additional students was projected at $419,850. The projected additional cost per student for 1,000 additional

students was $844, and the projected total cost for these 1,000 students was $844,200.

TABLE XII

SUMMARY OF INCREASED COSTS OF
500 AND 1,000 ADDITIONAL STUDENTS

Administrative Area	500 Student Increase		1,000 Student Increase	
	Total	Per Student	Total	Per Student
Gen. Administrative	$ 3,320	$ 6.64	$ 11,140	$ 11.14
Instruction	304,015	608.03	608,030	608.03
Student Affairs				
Business Affairs	112,515	225.03	225,030	225.03
Total	$419,850	$839.70	$844,200	$844.20

Comparison of Revenue and Cost

The projected additional revenue to Northwest Missouri State from each additional non-resident student was $1,281 compared to projected additional per student cost of $840 for an increase of 500 non-resident students and $844 each for 1,000 additional non-resident undergraduate students. The projected net revenue to Northwest Missouri State was $441 per student for an increase of 500 non-resident students and $437 each for an increase of 1,000 non-resident undergraduate students.

The projected total additional revenue to Northwest Missouri State from 500 additional non-resident students was

$640,500 compared to total additional costs of $419,850. The projected total revenue to Northwest Missouri State from 1,000 additional non-resident students was $1,281,000 compared to a projected total additional cost of $844,200. The projected net revenue to Northwest Missouri State was $220,650 for an increase of 500 students and $436,800 for an increase of 1,000 non-resident undergraduate students.

The additional revenue of $25,000 for an increase of 500 students or $50,000 for an increase of 1,000 students, projected for the State of Missouri, and $647,000 or $1,294,000 additional revenue for increases of 500 or 1,000 students respectively projected for the private sector would be in addition to the net revenue accruing to Northwest Missouri State from increases in out-of-state students.

Conclusions

Northwest Missouri State University could operate more economically with an increase in out-of-state students. Additional students would allow the University to more efficiently utilize its plant, facilities, and personnel. Additional revenue to Northwest Missouri State from 1,000 additional non-resident students would exceed their cost by $436,800 annually.

The State of Missouri would also benefit from additional non-resident students attending Northwest Missouri State. State taxes and fees paid by non-residents would largely be extra income to the state's Treasurer since the cost for

the services provided would be relatively fixed. Each non-resident student would pay an estimated $50 in various state taxes and fees. The total income to the state from increases in non-resident enrollment of 500 and 1,000 students would be $25,000 and $50,000 respectively.

Moreover, the citizens of Missouri would profit from additional non-resident students attending Northwest Missouri State. Each non-resident student would spend a projected $1,294 above payments to the University and to the state which would flow to individuals and businesses. The total income to the private sector of the economy from 500 and 1,000 additional non-resident students is projected at $647,000 and $1,294,000 respectively.

The economic benefits of additional non-resident students would be far greater than their cost. Each additional non-resident student would increase the state's income by approximately $4,384. An increase of 500 non-resident undergraduate students would add $2,191,875 to the state's economy while the cost to the state would be approximately $419,850, for a net gain of $1,772,025. An increase of 1,000 non-resident students would add $4,383,750 in income to the state against the state's cost of approximately $844,200, which would be a net gain of $3,539,550.

Increases in non-resident enrollment in Northwest Missouri State would create additional jobs for Missouri's residents. An increase of 500 non-resident students would provide income

sufficient to support an estimated 399 new jobs at an average of $5,500 per year, and an increase of 1,000 non-resident students would provide income sufficient for an estimated 797 new jobs for the people in Missouri.

One of the items on the questionnaire concerned whether the student would consider staying in Missouri following graduation. Over two-thirds of the respondents in the survey indicated that they are considering staying in Missouri following graduation.

Recommendations

These recommendations are based on the findings and conclusions drawn from this study by the writers.

First, the fee structure should not be used as a tool in regulating the number or percentage of out-of-state students attending Northwest Missouri State University.

Second, a quota system should never be imposed strictly on the basis of numbers of students as long as all qualified resident students are being admitted.

Third, throughout the study, it was determined that the existing facilities are capable of handling additional students. Therefore, we would suggest the intensification of recruitment efforts to obtain additional students either resident or non-resident in order to promote operational efficiency.

FOOTNOTES

1. Official Northwest Missouri State University Statistical Reports.

2. For determination of revenues attributable to non-resident students, the ideas and instrument were based on correspondence from Gilbert L. Mathis and the Murray State Study.

3. Most of the economic multipliers referred to in this section are from the Murray State Study.

4. Bruce W. Macy and Robert Gustafson, 'The Impact of Private Colleges and Universities on the Economy of the State of Missouri.' This was a report by the Midwest Research Institute to the Missouri Commission on Higher Education, September 16, 1968.